Louisville Metro Air Pollution Control District
$PM_{2.5}$ Monitoring Report
August 2009

This report summarizes $PM_{2.5}$ data collected by Federal Reference Method (FRM) samplers through August 2009. The data are subject to further quality assurance checks and are not final.

Table 1: $PM_{2.5}$ Monthly Data Summary August 2009 ($\mu g/m^3$)

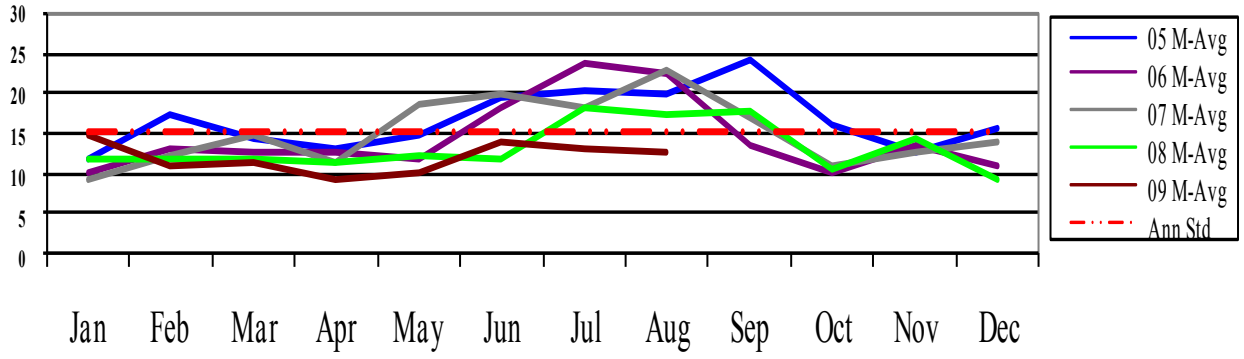
Site Name	Daily Maximum Conc. & Date	Daily Minimum Conc. & Date	Sample Recovery	Monthly Average
Southwick	24.3 (8/08)	2.9 (8/30)	97%	13.0
Wyandotte	25.7 (8/08)	2.9 (8/30)	94%	12.8
Cannons Lane	24.0 (8/08)	4.3 (8/23)	100%	13.2
Watson Lane	14.1 (8/11)	4.8 (8/23)	100%	11.2
Overall	**25.7 (8/08)**	**2.9 (8/30)**	**98%**	**12.6**

.

Table 2: $PM_{2.5}$ Monthly Averages Tracking Table for 1999-2009

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Months >15.0 ug/m3
Ann Std	15	15	15	15	15	15	15	15	15	15	15	15	
99 M-Avg	14.7	13.8	12.4	12.7	**18.1**	**23.4**	**26.6**	**19.5**	**15.6**	**17.4**	**16.1**	12.6	**7**
00 M-Avg	**15.8**	**16.4**	13.4	13.6	**17.1**	**17.7**	**23.5**	**21.2**	13.3	**19.7**	**15.6**	**17.1**	**9**
01 M-Avg	**21.9**	13.9	**15.2**	13.3	**17.7**	**20.5**	**24.6**	**27.4**	**16.1**	13.8	**15.8**	12.4	**8**
02 M-Avg	13.1	10.0	12.3	11.4	**15.9**	**22.3**	**30.4**	**23.8**	**21.7**	13.2	11.8	**15.6**	**6**
03 M-Avg	12.2	**16.3**	15	14.6	13.1	**18.6**	**21.7**	**23**	**17.3**	12.5	12	10.6	**5**
04 M-Avg	10.5	**15.7**	10.1	11.3	13.4	**15.9**	**17.1**	**18.4**	**17.6**	13.8	11.1	11.1	**5**
05 M-Avg	11.7	**17.1**	14.3	13.1	14.9	**19.6**	**20.2**	**19.8**	**24.1**	**16.1**	12.6	**15.5**	**7**
06 M-Avg	10.3	13.0	12.5	12.6	11.9	**18.1**	**23.9**	**22.5**	13.6	10.1	13.6	11.1	**3**
07 M-Avg	9.3	12.2	14.9	11.2	**18.4**	**19.9**	**18.3**	**22.8**	**16.9**	11.1	12.5	14.1	**5**
08 M-Avg	11.8	12.0	11.9	11.6	12.1	11.8	**18.1**	**17.1**	**17.6**	10.6	14.3	9.4	**3**
09 M-Avg	14.6	11.1	11.3	9.3	10.3	13.9	13.1	12.6					**0**

Chart 1: $PM_{2.5}$ Monthly Averages Trends



National Ambient Air Quality Standards (NAAQS):

National Ambient Air Quality Standards consists of Primary and Secondary Standards. The Primary Standards define levels of air quality which EPA judges are necessary, with an adequate margin of safety, to protect the public health. The Secondary Standards define levels of air quality which EPA judges necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. For $PM_{2.5}$ the levels of the Primary and Secondary Standards are the same.

Annual Standard:

The annual standard is designed to provide an appropriate level of protection from long-term exposures to $PM_{2.5}$. Table 3 compares data collected from 2003 through year-to-date 2009 to the Annual National Ambient Air Quality Standard for $PM_{2.5}$. The Annual National Ambient Air Quality Standard for $PM_{2.5}$ is met when the annual design value is less than or equal to 15.0 $\mu g/m^3$. The design value is based on 3 consecutive, complete years of air quality data and is calculated by taking the 3-year average of annual means.

Table 3: $PM_{2.5}$ Annual Means and Annual Design Values

Site Name	Annual Means µg/m³							Annual Design Values 2003-2005	Annual Design Values 2004-2006	Annual Design Values 2005-2007	Annual Design Values 2006-2008	Annual Design Values 2007-2009
	2003	2004	2005	2006	2007	2008	2009[1]					
Southwick	16.0	14.5	16.6	15.0	15.1	13.2	12.5	**15.7**	**15.4**	**15.6**	14.4	13.6
Wyandotte	15.4	14.0	16.4	15.2	14.9	13.4	12.7	15.3	15.2	15.5	**14.5**	**13.7**
Cannons Lane*	15.5	13.7	16.7	13.9	15.0	13.4	12.0	15.3	14.8	15.2	14.1	13.5
Watson Lane	14.9	12.6	16.4	13.7	15.4	12.8	11.4	14.7	14.2	15.1	13.9	13.2

Bold: Design value site for Louisville.
[1]Year-to-date data for 2009.
* Cannons Lane replaced Barret in 2009. 2003-2008 data are from Barret.

24-Hour Standard:

The 24-Hour standard is designed to provide an appropriate level of protection from short-term exposures to $PM_{2.5}$. Table 4 compares data collected from 2003 through year-to-date 2009 to the 24-Hour National Ambient Air Quality Standard for $PM_{2.5}$. In December 2006 the EPA changed the 24-hour standard from 65$\mu g/m^3$ to 35$\mu g/m^3$. The standard is met when the 24-Hour design value is less than or equal to 35$\mu g/m^3$. The design value is based on 3 consecutive, complete years of air quality data and is calculated by taking the average of the 98th percentile value for each of the 3 years. The 98th percentile is the daily value out of a year of $PM_{2.5}$ monitoring data below which 98 percent of all daily values fall.

Table 4: $PM_{2.5}$ Annual 98th Percentiles and 24-Hour Design Values

Site Name	Annual 98th Percentile Value. µg/m³							24-Hour Design Values 2003-2005	24-Hour Design Values 2004-2006	24-Hour Design Values 2005-2007	24-Hour Design Values 2006-2008	24-Hour Design Values 2007-2009
	2003	2004	2005	2006	2007	2008	2009[1]					
Southwick	36.3	31.1	42.9	36.0	34.1	28.7	24.2	**36.8**	**36.7**	**37.7**	32.9	**29.0**
Wyandotte	37.9	30.6	40.1	36.3	33.5	24.9	24.9	36.2	35.7	36.6	**33.1**	27.8
Cannons Lane*	35.5	28.8	43.2	36.7	31.9	30.7	24.1	35.8	36.2	37.3	**33.1**	28.9
Watson Lane	33.0	25.8	36.5	32.5	32.5	28.6	24.5	31.8	31.6	33.8	31.2	28.5

Bold: Design Value for Louisville.
[1]Year-to-date data for 2009.
* Cannons Lane replaced Barret in 2009. 2003-2008 data are from Barret.

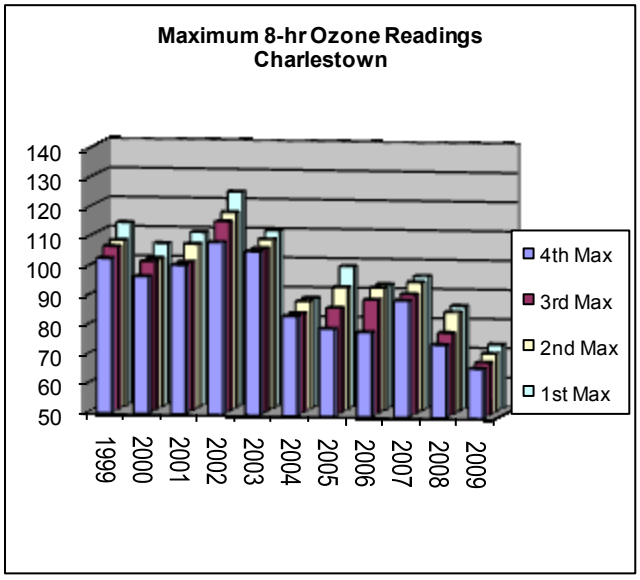
Louisville Metro Air Pollution Control District
8-Hr Ozone Monitoring Report
August 2009

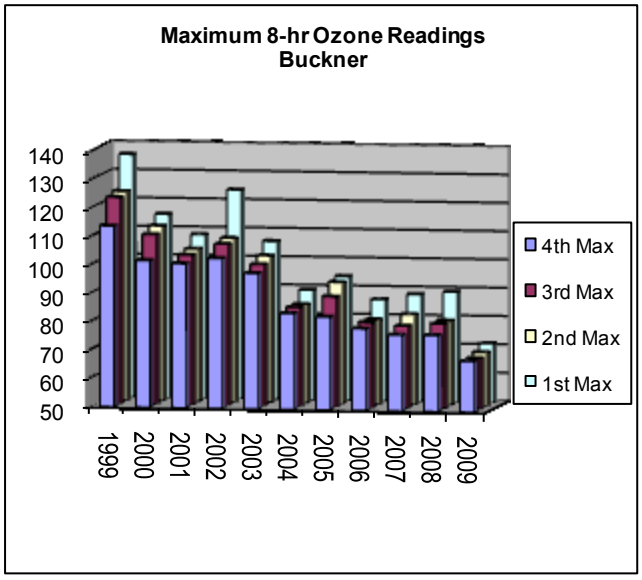
This report summarizes ozone data measured by Automated Equivalent Method (AEM) samplers located within the Louisville Metropolitan Statistical Area through August 2009. The data are subject to further quality assurance checks and are not final.

Table 1: 2009 8-Hr Ozone Maximum Values and Exceedances

Date	# of 8-Hour Exceeds	# of Days with Exceeds	Charlestown (CH) Clark Co. IN	New Albany (NA) Floyd Co. IN	Bates (BA) Jefferson Co. KY	Watson (WS) Jefferson Co. KY	WLKY-TV (WK) Jefferson Co. KY	Buckner (BK) Oldham Co. KY	Shepherds-ville (SH) Bullitt Co. KY	AQI Forecast / Max. Actual	AQA Issued
4/18/09	0	0	66	58	66	62	65	66	65	50/71	No
5/20/09	0	0	67	62	66	69	65	68	62	60/80	No
5/21/09	0	0	65	54	57	58	56	60	52	106/67	Yes
5/22/09	1	1	62	62	61	**80**	61	62	55	111/111	Yes
5/31/09	0	0	58	52	63	62	58	56	64	61/64	No
6/1/09	0	0	65	60	68	64	65	71	59	54/87	No
6/2/09	0	0	63	61	75	72	58	66	61	80/100	No
6/6/09	0	0	68	68	67	70	68	68	63	80/84	No
6/24/09	1	1	65	63	62	**85**	61	64	70	106/124	Yes
6/25/09	2	1	70	69	**84**	**78**	61	69	68	85/106	No
6/27/09	1	1	65	59	**76**	63	59	63	63	115/101	Yes
8/14/09	1	1	60	63	63	**80**	60	58	62	70/111	No
8/15/09	0	0	72	61	60	51	65	67	50	90/85	No
Totals	6	5	0	0	2	4	0	0	0		4

Bold/Red: Values exceed the 2008 ozone standard (values ≥ 76 ppb).
Underlined: Values are the 4th highest values recorded at each site.
AQA issued: The number of Air Quality Alerts Issued (Air Quality Index in the Unhealthy for Sensitive Groups Range or Higher).





8-Hour Ozone Exceedances: An ozone exceedance occurs when the highest 8-hour average for each day is greater than the National Ambient Air Quality Standard (NAAQS). For 1998-2007 the NAAQS was 80 ppb and the exceedances reported for that time period are based on that standard. In 2008 the NAAQS was changed to 75 ppb and the exceedances (8-hour average ≥76 ppb) reported are based on the new standard.

Table 2: 1998 – 2009
8-Hour Ozone
Exceedance Summary

Year	Charlestown (CH)	New Albany (NA)	Bates (BA)	Watson (WS)	WLKY-TV (WK)	Buckner (BK)	Shepherds-ville (SH)	Louisville MSA Total		Jefferson County Total	
								Exceedances	Days	Exceedances	Days
1998	22	14	10	11	7	12	12	88	30	28	15
1999	11	10	16	13	4	34	11	99	44	33	22
2000	4	0	5	1	3	4	2	19	10	9	6
2001	4	0	2	1	1	4	2	14	10	4	3
2002	17	13	4	15	7	12	10	78	26	26	19
2003	4	4	1	0	0	2	0	11	7	1	1
2004	0	0	1	0	0	0	1	2	2	1	1
2005	3	2	0	4	1	4	0	14	8	5	4
2006	3	1	0	1	0	3	0	8	6	1	1
2007	8	3	8	4	2	3	0	28	16	14	11
2008	3	3	2	2	1	4	2	17	9	5	5
2009	0	0	2	4	0	0	0	6	5	6	5

Historical Graph of 8-Hour Ozone Exceedances

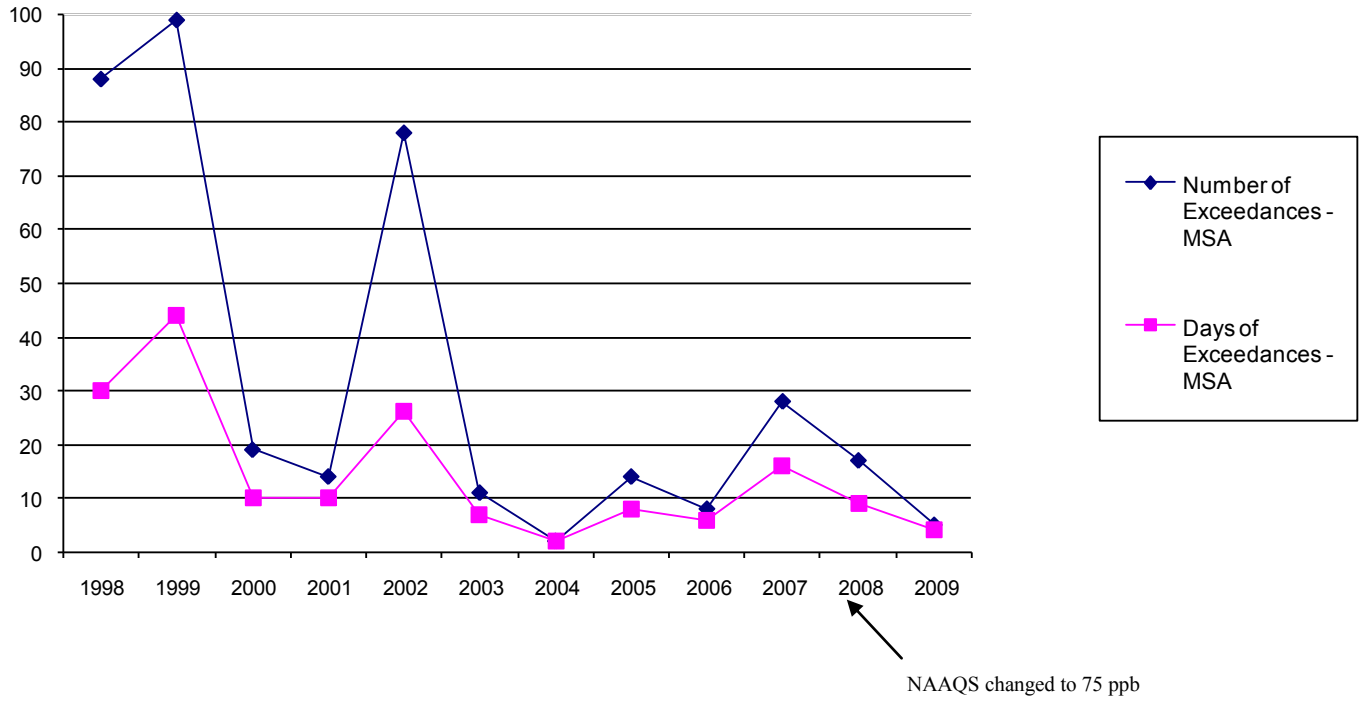
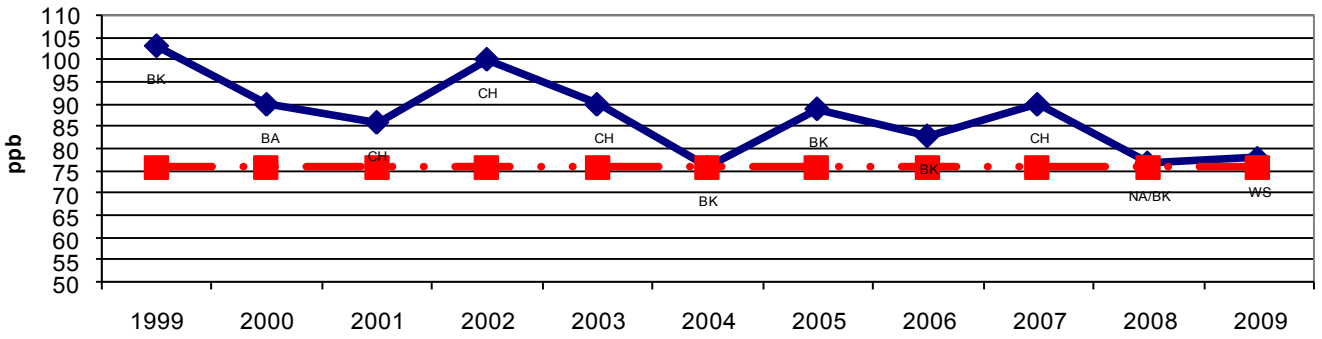


Table 3: 1999-2009
8-Hour Ozone 4th Maximums

Year	Louisville MSA	Charlestown (CH)	New Albany (NA)	Bates (BA)	Watson (WS)	WLKY-TV (WK)	Buckner (BK)	Shepherdsville (SH)
1999	**103**	89	94	97	100	86	**103**	93
2000	**90**	85	77	**90**	76	84	85	82
2001	**86**	**86**	76	81	81	77	**86**	82
2002	**100**	**100**	97	85	96	88	91	91
2003	**90**	**90**	86	72	75	73	82	72
2004	**76**	74	71	70	70	68	**76**	68
2005	**89**	80	80	79	85	74	**89**	80
2006	**83**	79	76	74	77	67	**83**	71
2007	**90**	**90**	82	86	85	79	84	78
2008	**77**	75	75	72	75	68	**77**	69
2009	**78**	67	63	68	**78**	65	68	64

8-Hour Ozone Annual 4th Maximum Readings for Louisville MSA



8-Hr NAAQS: Attainment of the new 8-Hour Ozone National Ambient Air Quality Standard at an individual monitor is achieved when the three-year average of the annual fourth-highest daily maximum (4th maximum) 8-hr average ozone concentration is less than 76 ppb. This three-year average is the design value for that monitor.

Table 4: 8-Hour Ozone Design Value Summary

Year	Louisville MSA	Charlestown (CH)	New Albany (NA)	Bates (BA)	Watson (WS)	WLKY-TV (WK)	Buckner (BK)	Shepherdsville (SH)
99-01 Avg.	**91 BK**	86	82	89	85	82	**91**	85
00-02 Avg.	**90 CH**	**90**	83	85	84	83	87	85
01-03 Avg.	**92 CH**	**92**	86	77	84	79	86	81
02-04 Avg.	**88 CH**	**88**	84	74	80	76	82	77
03-05 Avg.	**82 BK**	81	79	73	76	71	**82**	73
04-06 Avg.	**82 BK**	77	75	72	77	69	**82**	73
05-07 Avg.	**85 BK**	83	79	79	82	73	**85**	76
06-08 Avg.	**81 CH/BK**	**81**	77	77	79	71	**81**	72
07-09 Avg.	**79 WS**	**77**	73	75	**79**	70	76	70

Bold: Design Value Sites for respective periods.

8-Hour Ozone Design Value Trend Chart
for Louisville MSA
Using the 2008 Standard as the Trend Line